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### Special Article - Unpaid work and the Australian Economy

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#### INTRODUCTION

A large proportion of productive unpaid work in Australia is excluded from conventional measures of economic production. This is because of both measurement and conceptual difficulties. Although difficult to measure, there is a strong interest among analysts in the value of this unpaid work because of its significance and because of linkages between unpaid work and the market sector of the economy. In particular, changes in unpaid work will provide some insights into impacts on the market sector of the economy. Using market replacement valuation methods (see below), unpaid work is estimated to be equal to approximately half of the total gross domestic product (GDP).

There are two broad types of unpaid work: production by households for their own consumption (eg domestic work about the house, child care and purchasing); and volunteer and community work provided free of charge to others (eg care of aged and disabled relatives and friends, and doing favours for others).

This article analyses the significance of unpaid work in Australia. It presents estimates of the value of unpaid work broken down by type of unpaid work and by the types of persons (eg males and females) undertaking the work. It also analyses the change in the value of unpaid work as a proportion of GDP between 1992 and 1997.

#### ESTIMATION METHODS

The estimates of unpaid work presented in this article were derived by assigning values to the time spent on unpaid work according to the cost of hiring a market replacement for individual activities. Three alternative measures using this general approach are presented: the **individual function cost** method which uses the costs of hiring specialists to do each of the activities concerned; the **housekeeper replacement cost** method which uses the cost of hiring a housekeeper to undertake all of the unpaid work; and the **hybrid replacement cost** method which is a combination of the two (see the Appendix for a more detailed explanation).

There are other approaches that can be used to value unpaid work, most notably opportunity cost methods, which value unpaid work according to what household members would have earned in wages if they had spent the same amount of time on paid work as they had actually spent on unpaid work. While there are no international recommendations in this area, there is an emerging consensus that the market replacement methods are better than the opportunity cost methods.

#### VALUE OF UNPAID WORK

Information on the time spent on unpaid work was drawn from the ABS's Time Use Surveys (TUSs) conducted in respect of 1992 and 1997. Table 1 shows the various estimates of the value of unpaid household work, volunteer work and total unpaid work in 1992 and 1997. According to all valuation methods, the value of unpaid work, in current price terms, rose between 1992 and 1997.

**TABLE 1 : VALUE OF UNPAID WORK, 1992 and 1997**

Estimation Method	Value of unpaid household work		Value of unpaid volunteer and community work		Total value of unpaid work	
	1992 \$B	1997 \$B	1992 \$B	1997 \$B	1992 \$B	1997 \$B
Market replacement cost						
Individual function method						
Male and female wage rates	207	237	18	24	225	261
Housekeeper method						
Male and female wage rates	196	214	18	24	214	238
Hybrid method						
Male and female wage rates	na	234	na	24	na	258

na not available

Table 2 displays estimates of the percentage contribution of females to the value of unpaid work and the ratio of unpaid work to GDP in 1992 and 1997. Both the contribution of females to the value of unpaid work and the ratio of the total value of unpaid work to GDP declined between 1992 and 1997. These outcomes may be at least partly explained by the fact that the female labour force participation rate increased between 1992 and 1997. As a result, services such as child care and preparation of meals that were previously provided by the unpaid work of women were increasingly purchased from the market.

**TABLE 2 : PERCENTAGE CONTRIBUTION OF FEMALES TO THE VALUE OF UNPAID WORK AND RATIO OF THE VALUE OF UNPAID WORK TO GDP**

Estimation Method	Female contribution to total unpaid work		Ratio of total value of unpaid work to GDP	
	1992 %	1997 %	1992 %	1997 %
Market replacement cost				
Individual function method				
Male and female wage rates	65	63	54	48
Housekeeper method				
Male and female wage rates	66	65	51	43
Hybrid method				
Male and female wage rates	na	64	na	47

na not available

## UNPAID HOUSEHOLD WORK

Tables 3 and 4 show, for 1997, the shares of the value of unpaid household work arising from various work activities for females and males classified by marital and employment status (compiled using the individual function replacement cost method).

Irrespective of the marital/employment status, the highest proportion of the value of unpaid household work for females was food and drink preparation and clean-up.

**TABLE 3: SHARE OF THE VALUE OF UNPAID HOUSEHOLD WORK OF FEMALES ATTRIBUTABLE TO VARIOUS WORK ACTIVITIES, by marital and employment status - 1997**

Activity	Married females		Unmarried females		Total females %
	Employed %	Not Employed (a) %	Employed %	Not Employed (a) %	
Food and drink preparation and cleanup	24.3	27.3	21.1	25.0	25.3
Laundry, ironing and clothes care	11.6	10.7	8.9	9.6	10.6
Other housework	12.3	13.9	11.9	14.4	13.3
Gardening, lawn care and pool care	4.2	5.0	4.3	8.4	5.3
Pet care	1.8	1.6	2.9	2.8	2.0
Home maintenance	1.2	1.1	2.2	1.3	1.3
Household management	3.8	3.2	5.3	4.2	3.8
Communication(b)	0.6	0.5	0.8	0.3	0.5
Transport	12.0	9.6	17.3	11.3	11.5
Child care	16.0	17.5	6.8	9.7	14.4
Purchasing	12.2	9.5	18.5	12.9	12.0
Total	100.0	100.0	100.0	100.0	100.0

(a) Unemployed or not in the labour force

(b) Communication is defined as the interaction between household members and others in relation to unpaid work matters in person or writing or via phone, fax or personal computer.

**TABLE 4 : SHARE OF THE VALUE OF UNPAID HOUSEHOLD WORK OF MALES ATTRIBUTABLE TO VARIOUS WORK ACTIVITIES, by marital and employment status - 1997**

Activity	Married males		Unmarried males		Total males %
	Employed %	Not Employed (a) %	Employed %	Not Employed (a) %	
Food and drink preparation and cleanup	15.4	16.6	19.7	21.2	17.2
Laundry, ironing and clothes care	2.3	1.9	4.7	5.6	3.0
Other housework	5.7	7.4	9.5	11.8	7.6
Gardening, lawn care and pool care	12.1	19.5	6.5	12.7	13.4
Pet care	2.5	3.6	3.6	2.5	3.0
Home maintenance	12.0	12.5	10.1	11.1	11.7
Household management	5.8	4.9	7.0	4.6	5.5
Communication	0.8	0.6	0.4	0.4	0.6
Transport	13.5	11.3	17.5	13.1	13.4

Child care	17.0	7.8	2.2	2.9	10.4
Purchasing	12.8	14.0	18.7	14.2	14.1
Total	100.0	100.0	100.0	100.0	100.0

(a) Unemployed or not in the labour force

(b) Communication is defined as the interaction between household members and others in relation to unpaid work matters in person or writing or via phone, fax or personal computer.

As for females, the highest share of the value of unpaid work for unmarried men was also food and drink preparation and clean-up. The highest share for employed married men was child care, while for married men who are not employed it was gardening, lawn care and pool care. Women accounted for 65% of the value of unpaid household work.

## VOLUNTEER AND COMMUNITY WORK

**TABLE 5 : SHARE OF THE VALUE OF VOLUNTEER AND COMMUNITY WORK OF FEMALES AND MALES IN EMPLOYMENT STATUS CATEGORIES ATTRIBUTED TO VARIOUS ACTIVITIES-1997**

Activity	Females			Males		
	Employed	Not Employed	Total females	Employed	Not Employed	Total males
	%	(a)	%	%	%	%
Adult care	5.7	9.7	8.5	3.3	6.9	4.0
Volunteer work	74.1	74.6	73.5	72.1	75.2	73.5
Associated communication(b)	0.7	0.4	0.5	0.8	0.5	0.7
Associated travel	19.6	15.3	17.4	23.9	17.4	21.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Unemployed or not in the labour force

(b) Associated communication is defined as the interaction between household members and others in relation to volunteer work matters in person or writing or via phone, fax or personal computer.

Table 5 shows the share of the value of volunteer and community work for females and males in each employment status category, for 1997 (using the individual function replacement cost method).

Males and females have similar shares for volunteer work. However, the adult care share is significantly greater for females than for males, particularly for not employed females.

## ANALYSIS OF THE CHANGES IN UNPAID WORK BETWEEN 1992 AND 1997

From 1992 to 1997, the value of total unpaid work as a proportion of GDP fell between 6 and 8 percentage points, depending on the valuation method used.

### Quantity of Unpaid Work

In that period, the average time spent on unpaid household work declined by 1%, while the average time spent on volunteer and community work increased by 10%. The former implies that the switch to market-provided services made only a small contribution to GDP growth. GDP per capita in volume terms grew by 16% between 1992 and 1997.

Particular developments over the period 1992 to 1997 could have contributed to a fall in the

quantity of unpaid work per person. These include an increase in the female labour force participation rate, an increase in the proportion of children enrolled in formal child care, a fall in the proportion of children under 5 to the total population, and a fall in the unemployment rate. Other factors, such as an increase in the proportion of lone person households and an increase in the size of houses, may have had a mitigating effect.

### **Valuation of unpaid work**

The wage rates used to value labour inputs for unpaid work were typically those of less skilled workers, whose wage rates generally rose more slowly than average wage rates in the period between 1992 and 1997. This decreased the value of unpaid work relative to paid work and GDP over this period.

### **Methodological differences between the 1992 and 1997 estimates**

There were two main methodological differences between the compilation of estimates for 1992 and 1997. First, more detailed activity coding of the 1997 Time Use Survey permitted the exclusion of previously included activities not considered to be unpaid work, for example, window shopping and emotional care of adults. This factor contributed marginally to the decline in the ratio of unpaid work to GDP over the period 1992 to 1997.

Second, in the compilation of the 1997 data, in some cases, different occupations were chosen to represent selected household activities mainly due to revisions in the Australian Standard Classification of Occupations (ASCO). In a number of cases, the occupations chosen in 1997 had lower skill requirements - and therefore lower wage rates - than the occupations chosen in 1992.

### **FUTURE PLANS**

It is planned that the next time-use survey will take place in 2005 or 2006, and the ABS intends to compile updated estimates of unpaid work when the results of this survey become available. The ABS is also considering publishing more comprehensive measures of household production. However, it is not possible at this stage to indicate the time frame in which these measures might become available.

### **FURTHER INFORMATION**

Details of the 1997 analysis of results and concepts, sources and methods can be found in **"Unpaid Work and the Australian Economy 1997"** (Cat. No. 5240.0). Further information can be obtained by contacting Ross Harvey on Canberra 02 6252 7121 or e-mail [ross.harvey@abs.gov.au](mailto:ross.harvey@abs.gov.au)

### **APPENDIX: CONCEPTS, SOURCES AND METHODS**

#### **DEFINITION AND SCOPE OF UNPAID WORK**

In this paper, the criterion of 'third person' or 'market replacement' as stated by Reid<sup>1</sup> is used to define unpaid work. This criterion states that:

'Household production consists of those unpaid activities which are carried on, by and for the members, which activities might be replaced by market goods or paid services, if circumstances such as income, market conditions and personal inclinations permit the service being delegated to someone outside the household group'.

The essence of this criterion is that if someone outside the household can provide an equivalent service to the household then that household activity is considered unpaid work.

However, the distinction between unpaid work and leisure is not clear cut in some cases. For instance, many household activities that meet the Reid criterion, such as cooking, shopping and raising children, could be considered leisure activities in a number of circumstances.

The conceptual basis for the activity classifications used in the 1992 and 1997 Time Use Surveys (TUSs), was taken from work done by Dagfinn Aas<sup>2</sup>. Unpaid work as defined in this paper is consistent with his concept of committed-time activities, which are activities to which a person has committed him/herself because of previous acts or behaviours or community participation such as having children, setting up a household or doing voluntary work. The consequent housework, care of children, shopping or provision of help to others are committed-time activities. In most cases, similar services could be purchased from the market sector rather than provided by the individual.

Some activities were excluded from the definition of unpaid work on the basis that they did not satisfy the 'third person criterion'; for instance, with 'window shopping', in general, people would not pay another person to window shop on their behalf. Other activities were excluded on the grounds that they were in the nature of personal care activities - the time spent on these activities involves consumption, rather than household production (having a hair cut or visiting the doctor are activities that only the recipient of the service can undertake).

Some other activities that satisfy the third-person criterion were excluded because, in practice people generally perform the activity themselves rather than pay someone else to do it. For example, in relation to 'Caring for adults-emotional support', people do not usually pay someone else to provide emotional support for their spouse or a friend.

Some commentators have questioned whether volunteer and community work is 'work' or 'leisure'. Most probably it contains elements of both depending on the type of volunteer and community work. Volunteer caring for sick, frail or disabled adults can be done by a third person and, therefore, qualifies as unpaid work under the third person criterion. However, spending time doing community activities, for instance, organising and attending rehearsals for a school play, contains a strong element of leisure and in practice, people would not hire someone else to undertake such activities on their behalf.

## VALUATION METHODS

There are two basic approaches to measuring unpaid work: the 'direct' or 'output' method and the 'indirect' or 'input' method. In general, data to apply the output method are not available and the ABS uses 'input' methods to measure the value of unpaid work. 'Indirect' or 'input' methods involve valuing output in terms of the cost of inputs and require information about the time spent on household work provided by TUSs. There are a number of different input methods available. In this paper, the **market replacement cost** method was used and it is defined as the cost to households of hiring others to do the household work for them. A key assumption of this method is that household members are equally as productive in performing unpaid work as those paid to do similar work, which may or may not be true. Three variants of this method are:

(i) **Individual function replacement cost** method which assigns values to the time spent on unpaid work by household members according to the cost of hiring a market replacement for each individual function. In this paper, valuation is based on male and female wage rates.

(ii) **Housekeeper replacement cost** method which values the time spent on unpaid household work by household members according to the cost of hiring a housekeeper to undertake the relevant tasks. A female wage rate for domestic housekeepers was used in this paper as there was no male wage rate available.

(iii) **Replacement cost hybrid** method which uses the housekeeper wage rate to value those tasks normally carried out by a housekeeper while for the remaining tasks, the wage rates employed in the individual function replacement cost method are used.

## FOOTNOTES

1 Goldschmidt-Clemont, L, 1984, Unpaid Work in the Household, International Labour Organisation, p. 4.

2 Australian Bureau of Statistics, 1998, Time Use Survey, Australia, Users Guide, December 1997, Cat. no. 4150.0, p 17

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